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| 10/733,260 | 12/12/2003 | Toru Takayama | 0756-7226 | 8689 |
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| ERIC ROBINSON PMB 955 21010 SOUTHBANK ST. POTOMAC FALLS, VA 20165 | | | EXAMINER LOPEZ ESQUERRA, ANDRES | |
| | | | ART UNIT 2818 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,260

Applicant(s)

TAKAYAMA ET AL.

Examiner

Andrés López-Esquerre

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,8,10-12 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-5, 7-8, 10-12, and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/17/2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of Amendments filed on August 17, 2007.
2. Acknowledgement is made of New Claim 14 – 29 filed on August 17, 2007.
3. Acknowledgement is made of Cancel claims 3, 6, 9, and 13 on August 17, 2007.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2818

7. Claims 1 – 2 and 14 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen US 6,456,353 (Chen) in view of Kusumoto US 5,567,967 (Kusumoto).

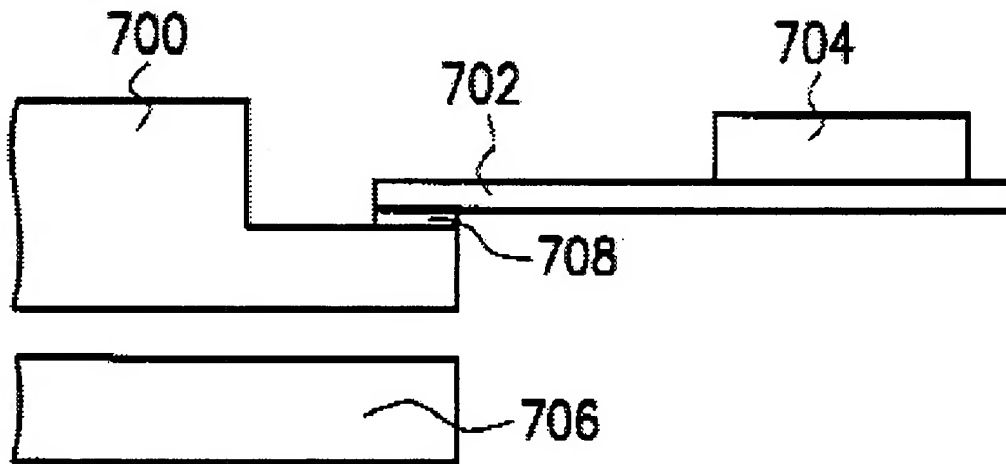


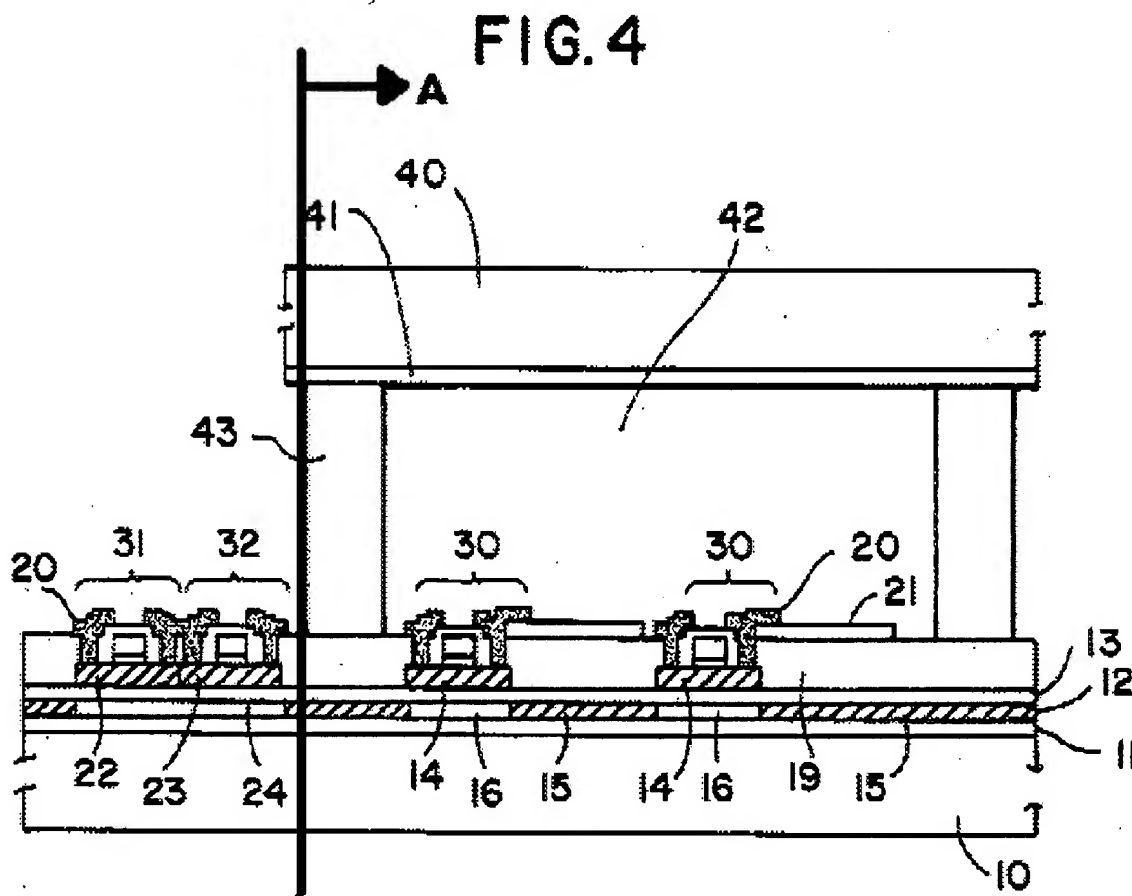
FIG. 8

8. As for claim 1, Chen discloses (Col. 5, line 34 – Col. 6, line 3) and shows in Fig. 8 a flat LCD driver IC module comprising:

- a. a substrate (702) having a contact hole (Chen discloses Col. 5, lines 54 – 56, that the substrate 702 include interconnecting wiring and therefore contact holes in it);
- b. a display device (700, 706) equipped on one side of the substrate; and
- c. a thin film integrated circuit (704) equipped on the other side of the substrate, wherein the display device is electrically connected to the thin film integrated circuit through the contact hole (Chen discloses Col. 5, lines 54 – 63,

that the substrate 702 include interconnecting wiring and therefore contact holes in it and that the same are connected to the LCD 700).

9. Chen fails to disclose the limitation of each of the display device and the thin film integrated circuit comprising a polycrystalline semiconductor film.



10. Kusumoto discloses (Col. 7, lines 33 – 58, Col. 4, line 10 – 20) and shows in Fig. 4 a LCD display (A) with a peripheral driving circuit (31, 32) where both use a polycrystalline semiconductor layer (14, 22, 24) on the construction.

Kusumoto is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use a polycrystalline semiconductor layer in the construction of both the LCD and the IC driving circuit.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen by using polycrystalline semiconductor layer in the construction of both the LCD and the IC driving circuit for advantages such as providing high mobility transistors in both parts (Col. 4, lines 14 – 20).

11. As for claims 2 and 14 – 16, Chen discloses that the substrate (702) has a preferred material of polyimide (Col. 4 lines 15 – 200 and that the same can be a flexible printed circuit board, if further discloses that the connection between the IC driving (704) to the LCD (700) panel is made through an adhesive layer (708) (Col. 5, lines 60 – 64).

12. Claims 4 – 5, 7 – 8, 10 – 12, 18 – 20, 22 – 23, and 26 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Kusumoto, and further in view of Applicant's Admitted Prior Art (AAPA).

13. As for claims 4, 7 and 10, Chen discloses (Col. 5, line 34 – Col. 6, line 3) and shows in Fig. 8 a flat LCD driver IC module comprising:

- d. a substrate (702) having a contact hole (Chen discloses Col. 5, lines 54 – 56, that the substrate 702 include interconnecting wiring and therefore contact holes in it);
- e. a display device (700, 706) equipped on one side of the substrate; and
- f. a plurality of thin film integrated circuits (704) equipped on the other side of the substrate, wherein the display device is electrically connected to the thin

film integrated circuits through the contact hole (Chen discloses Col. 5, lines 54 – 63, that the substrate 702 include interconnecting wiring and therefore contact holes in it and that the same are connected to the LCD 700), and wherein the display device is an active matrix type (Col. 5, lines 27 – 29).

14. Chen fails to disclose the limitation of each of the display device and the thin film integrated circuits comprising a polycrystalline semiconductor film.

15. Kusumoto discloses (Col. 7, lines 33 – 58, Col. 4, line 10 – 20) and shows in Fig. 4 a LCD display (A) with a peripheral driving circuit (31, 32) where both use a polycrystalline semiconductor layer (14, 22, 24) on the construction.

Kusumoto is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use a polycrystalline semiconductor layer in the construction of both the LCD and the IC driving circuit.

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen by using polycrystalline semiconductor layer in the construction of both the LCD and the IC driving circuits for advantages such as providing high mobility transistors in both parts (Col. 4, lines 14 – 20).

17. Chen in view of Kusumoto still fails to disclose the thickness of the IC card to be from .005 mm to 1 mm.

18. AAPA discloses (page 2) that the thickness of the IC card is generally 0.7 mm.

19. AAPA is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use create the thickness of the IC card to be 0.7 mm.

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen in view of Kusumoto by creating the thickness of the overall structure to be 0.7 mm for such advantages as been able to provide a compact LCD with its driving IC with out compromising its characteristics of high mobility In re *KSR International Co. v. Teleflex Inc.*, 550 U.S.--, 82 USPQ2d 1385 (2007).

21. Furthermore, Chen in view of Kusumoto discloses the claimed invention except for the range of the IC card thickness to be from .05 mm to 1 mm. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to create the IC card thickness to be from .05 mm to 1 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re *Aller*, 105 USPQ 233.

22. As for claims 5, 8, 12, 14 – 16, 18 – 20, 22 – 24, and 26 – 27, Chen discloses that the substrate (702) has a preferred material of polyimide (Col. 4 lines 15 – 200 and that the same can be a flexible printed circuit board, if further discloses that the connection between the IC driving (704) to the LCD (700) panel is made through an adhesive layer (708) (Col. 5, lines 60 – 64).

23. As for claim 11, Chen in view of Kusumoto discloses the claimed invention except for the range of the IC thin film thickness to be from 1 μ m to 5 μ m. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to create the IC thin film thickness to be from 1 μ m to 5 μ m, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the

optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

24. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Kusumoto, and further in view of Freeman et al. US 6,019,284 (Freeman).

25. As for claim 15, Chen in view of Kusumoto fails to disclose the use of a plurality of antenna coils.

26. Freeman discloses an IC card that uses wireless communication element (not shown) (Col. 6, lines 49 – 50).

27. Freeman is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use wireless communication element in an IC card structure.

28. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen in view of Kusumoto by using wireless communication element in an IC card structure for such advantages as been able provide communication to the outside of the card (Col. 1 lines 12 – 17).

29. As for the plurality limitation, Chen in view of Kusumoto and Freeman discloses the claimed invention except for the use of plurality of wireless communication elements. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use a plurality of wireless communication elements, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Art Unit: 2818

30. Claims 21, 25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Kusumoto and AAPA, and further in view of Freeman.

31. As for claims 21, 25, and 29, Chen in view of Kusumoto and AAPA fail to disclose the use of a plurality of antenna coils.

32. Freeman discloses an IC card that uses wireless communication element (not shown) (Col. 6, lines 49 – 50).

33. Freeman is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use wireless communication element in an IC card structure.

34. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen in view of Kusumoto by using wireless communication element in an IC card structure for such advantages as been able provide communication to the outside of the card (Col. 1 lines 12 – 17).

35. As for the plurality limitation, Chen in view of Kusumoto, AAPA and Freeman discloses the claimed invention except for the use of plurality of wireless communication elements. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use a plurality of wireless communication elements, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Response to Arguments

36. Applicant's arguments with respect to claims 1 – 29 have been considered but are moot in view of the new ground(s) of rejection.

37. Since applicant's arguments (Page 8, line 10 – Page 10, line 22) all are based on the amendment independent claims 1, 4, 7, and 10, and the same have been properly rejected in the present Office Action on paragraph 8, the argument's are moot in view of new grounds of rejection.

38. Examiner would like to point out also that no mention of the objection to the Title was made; the same objection is maintain the present Office Action.

Conclusion

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2003/0012870, US 2005/0139918, US 2005/0106841, US 2004/0108987, US 2003/0089132, US 2003/0067576, US 2001/0022644, US 2001/0009342, US 2006/0097286, US 2001/0000763, US 2003/0090450, US 2002/0159010, US 6,019,284, US 6,961,111, US 6,518,557, US 6,456,353, US 6,402,039, US 7,239,564, US 6,414,441, US 6,391,747, US 5,834,071, US 5,656,511, US 6,616,035, US 6,360,954, US 6,064,988, US 6,028,926, US 6,012,636, US 5,789,732, US 4,918,631, US 4,754,418, US 4,667,087, US 5,737,272, US 4,238,848, US 4,614,861, US 6,191,838, US 4,931,623, US 5,436,744, US 5,567,967, and US 2002/0186341.

40. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrés López-Esquerro whose telephone number is (571) 272-9753. The examiner can normally be reached on M - Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven H. Loke can be reached on (571) 272 - 1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2818

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrés López-Esquerro
Examiner
Art Unit 2818

ALE



DAVID VU
PRIMARY EXAMINER